gonococcal infection with a sensitivity of 93%, a specificity of 98%, and an accuracy of 95% compared with standard culture methods.[5] All cases of NGO were treated according to established recommendations.[6]

Of the 502 infants born during four weeks, the following were excluded from analysis: 52 delivered by caesarean section, 36 referred for special neonatal care, and six who died within 24 hours after birth. Of the remaining 408 neonates, 175 (42·9%) were discharged before receiving eye prophylaxis. Eleven of these infants developed NGO. The odds ratio for the development of NGO in our sample was 5·14 ($p<0·01$), with a 95% confidence interval of odds ratio of 1·6-16·6. When those who received prophylaxis were analysed by age at administration of prophylaxis, a trend of effect (Mantel extention test) with increasing delay in prophylaxis was detected (table). This finding indicates that the timing of prophylaxis is an important factor modifying the efficacy of tetracycline or silver nitrate in the prevention of NGO. The number of cases representing "prophylaxis failure" were too few for us to assess more accurately the critical time for the administration of prophylaxis to prevent NGO. Our data, however, suggest that delay in prophylaxis beyond four hours after birth is associated with 4·5-fold increase in risk for NGO.

TABLE *Effect of timing of prophylaxis on risk for neonatal gonococcal ophthalmia (NGO)*

	n	*No (%) with NGO:*		*Standardised risk ratio**
		Present	*Absent*	
Prophylaxis at:				
≤4 hours	160	1 (0·6)	159 (99·4)	1·00
>4 hours	73	2 (2·7)	71 (97·3)	4·48
No prophylaxis	175	11 (6·3)	164 (93·7)	10·67

* *X Mantel extension test*, = 2·85; $p<0·01$.

Yours faithfully,
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References

1. Perine PL, Duncan ME, Krause DW, *et al.* Pelvic inflammatory disease and puerperal sepsis in Ethiopia. I. Etiology. *Am J Obstet Gynecol* 1980;**138**:969-73.
2. Galega FP, Heymann DL, Nasah BT. Gonococcal ophthalmia neonatorum: a case for prophylaxis in tropical Africa. *Bull WHO* 1984;**62**:95-8.
3. Nishida H, Risemberg HM. Silver nitrate ophthalmic solution and chenical conjunctivitis. *Pediatrics* 1975;**56**:368-73.
4. American Academy of Pediatrics. Prophylaxis and treatment of neonatal gonococcal infections. *Pediatrics* 1980; **65**:1047-50.
5. Jacobs NF, Krause SJ. Gonococcal and non-gonococcal urethritis in men. Clinical and laboratory differentiation. *Ann Intern Med* 1975;**82**:7-12.
6. Centers for Disease Control. CDC-recommended treatment schedules, 1979. *J Infect Dis* 1979;**139**:496-501.

TO THE EDITOR, *Genitourinary Medicine*

Infection of a surgical wound by β lactamase producing *Neisseria gonorrhoeae*

Sir,

Infections with *Neisseria gonorrhoeae* occur most commonly in the genitourinary tract and can cause urethritis, cervicitis, salpingitis, and bartholinitis. Other clinical manifestations include pharyngitis, conjunctivitis, anorectal infections, the arthritis-dermatitis syndrome, and exceptionally perihepatitis, endocarditis, and meningitis.[1,2] The mechanism of transmission is by contact with exudates from infected mucous membrane, almost always as a result of sexual activity.[2]

We present an exceptional location of *N gonorrhoeae* infection — a surgical wound. The patient was a Spanish woman aged 29 who came from Equatorial Guinea. After undergoing a caesarean section in our hospital, she developed a fever and had clinical signs of infection of the abdominal wall at the site of the incision. Eight days after surgery an abscess was drained. Culture on aerobic and anaerobic media produced a growth (in aerobic conditions only) of a Gram negative, oxidase positive diplococcus later identified as *N gonorrhoeae* (by sugar oxidation in CTA medium and agglutination with the Phadebact gonococcus test).

The gonococcus was also isolated from an endocervical specimen. β lactamase production was detected by a chromogenic cephalosporin method. The isolate had a 4·7 megadalton R plasmid but not a 24·5 megadalton transfer plasmid. Susceptibility testing on GC agar supplemented with chocolated horse blood inoculated with 10^6 bacteria/ml and incubated for 24 hours, showed minimum inhibitory concentrations of 8 mg/l of penicillin, 8 mg/l of tetracycline, 2 mg/l of cefoxitin, 0·03 mg/l of cefotaxime, 16 mg/l of streptomycin, 32 mg/l of kanamycin, 8 mg/l of gentamicin, and 32 mg/l of spectinomycin.

The surgical wound must have been contaminated from the original endocervical infection by the hands of either the patient or hospital staff, as other mechanisms seem improbable. The patient, who was also diagnosed as having malaria due to *Plasmodium vivax*, recovered completely after treatment with cefoxitin, chloroquine, and primaquine.

We thank Dr Rafael Rotger Anglada for making the plasmid study of the strain.

Yours faithfully,
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References

1. Black JR, Sparling PF. *Neisseria gonorrhoeae.* In: Mandell GL, Douglas RG, Bennett JE, eds. *Principles and practice of infectious diseases.* 2nd ed. New York: John Wiley and Sons, 1985:1195-205.
2. Benenson AS. *Control of communicable diseases in man.* 14th ed. Washington DC: APHA, 1985:158-63.